

Notice of Allowability

Application No.

09/944,657

Examiner

Cheukfan Lee

Applicant(s)

FENG, XIAO-FAN

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed May 2, 2005.
2. ☒ The allowed claim(s) is/are 1-14, 18, 19, and 21-31, now renumbered 1-27, respectively.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>corrected Figs. 1-6</u> . |


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1. Claims 1-14, 18, 19, and 21-31 are pending. Claims 1, 14, 18, 19, and 22 are independent.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mrs. Karen Dana Oster on May 25, 2005. Mrs. Oster agreed to amend the drawings by labeling Figs. 1-6 with "PRIOR ART" as requested in the previous Office Action and amend claim 18 to clearly define the variables or symbols in the expression also as requested in the previous Office Action.

Discussed is also the inequality in the expression of claim 18. The inequality in the expression for R_m is supported by the specification, page 16, lines 2-3, the "greater than" description. The inequality sign of claim 18 holds when the "greater than" is in consideration when deriving the expression for R_m .

3. **Please amend the drawings and claim 18 as follows:**

In the drawings:

Label Figs. 1-6 with – PRIOR ART --.

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In the claims:

In claim 18, line 13, after "coefficient of reflectivity" (first occurrence), insert -- R_m --, and after "said coefficient of reflectivity", insert -- R_m being --;

line 14 of the claim, change " R_o " to -- r_0 --; please note that the subscription for r is a zero; and after "true", change the period "." to a comma -- , --;

line 15, insert -- where r_0 denotes the radius of the scanner lamp, r_1 denotes the distance from the scanner lamp to a pixel scanned, and R_p denotes the reflectance of a paper document. --

4. Claims 1-14, 18, 19, and 21-31 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Claims 1-13 and 22-31 have been indicated allowed in the previous Office Action mailed March 8, 2005. Reasons for allowance given in that Action are still valid after the updated search. The reasons will be repeated below.

Claim 14 has been amended to include limitation of claim 17, now canceled, which was indicated allowable if rewritten in independent form. Reason for allowance given in the previous Office Action will be repeated below.

Claim 18 has been rewritten in independent form to include limitations of the base claim and intervening claim. Reason for allowance given in the previous Office Action will be repeated below.

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Claim 19 has been amended to include limitation of claim 20, now canceled, which was indicated allowable if rewritten in independent form. Reason for allowance given in the previous Action will be repeated below.

Claim 1 and its dependent claims 2-13 are allowable over the prior art of record, including the closest prior art references Inoue et al. (U.S. Patent No. 4,714,940) and Dawe (U.S. Patent No. 6,219,158), because the prior art does not teach a document-backing surface having a combination of the claimed first non-reflective surface, second non-reflective surface, and a specularly reflective partially covering the second non-reflective surface.

Independent claim 22 and its dependent claims 23-31 are allowable over the prior art of record, including Inoue et al. (U.S. Patent No. 4,714,940). Though Inoue et al. teaches a document-backing surface (30 in Fig. 10) having saw-teeth (30a), and that the angle between the tooth surface (30a) and the horizontal surface can be changed to orient the reflected light by the surface (30a) into a desired direction, Inoue et al. does not teach that a first tooth surface and a second tooth surface of the tooth of the backing surface are perpendicular to the cover geometric plane defined by the claimed longitudinal axis and latitudinal axis. This feature of the claimed backing surface in combination with other limitations of claim 22 is not taught by the prior art of record.

Claim 14 is allowable over Inoue et al. (4,714,940). The claim recites "wherein each of said plurality of specularly reflective surfaces has a coefficient of reflectivity, each said coefficient of reflectivity being less than 100 percent". In Inoue et al., each of

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the specularly reflective surfaces (30a in Fig. 10) is employed for increasing the overall light amount for scanning, and Inoue et al. makes sure that the direction of light reflected is the desired direction by changing an angle θ between a slant surface (30a) of the reflective plate (30) (backing) and the horizontal surface. Clearly in Inoue et al., the brighter the reflected light, the more sufficient the light amount for scanning, meaning that the coefficient of reflectivity of each of the surfaces (30a) is intended to be closed to (or substantially) 100 percent, if not at 100 percent. Therefore, Inoue et al. does not teach this limitation in combination with other limitations of claim 14.

Claim 18 is allowable because none of the prior art teaches the claimed document-backing surface comprising at least one specularly reflective surface at least partially covering the document-backing surface, the at least one surface comprising a plurality of specularly reflective surfaces each having a coefficient of reflectivity R_m which satisfies the claimed expression for R_m .

Claim 19 and its dependent claim 21 are allowable because Dawe (6,219,158) does not disclose covering the non-reflective surface (black surface in Dawe) with a specularly reflective surface as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee
May 25, 2005

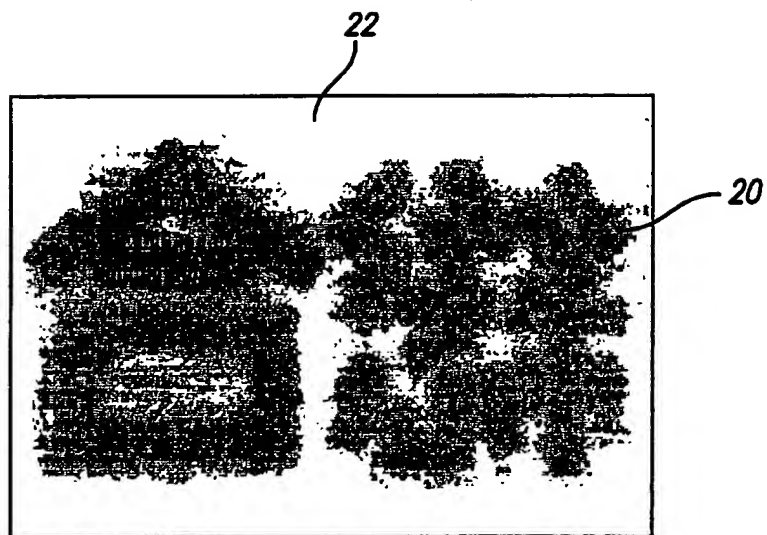


FIG. 1 --PRIOR ART--

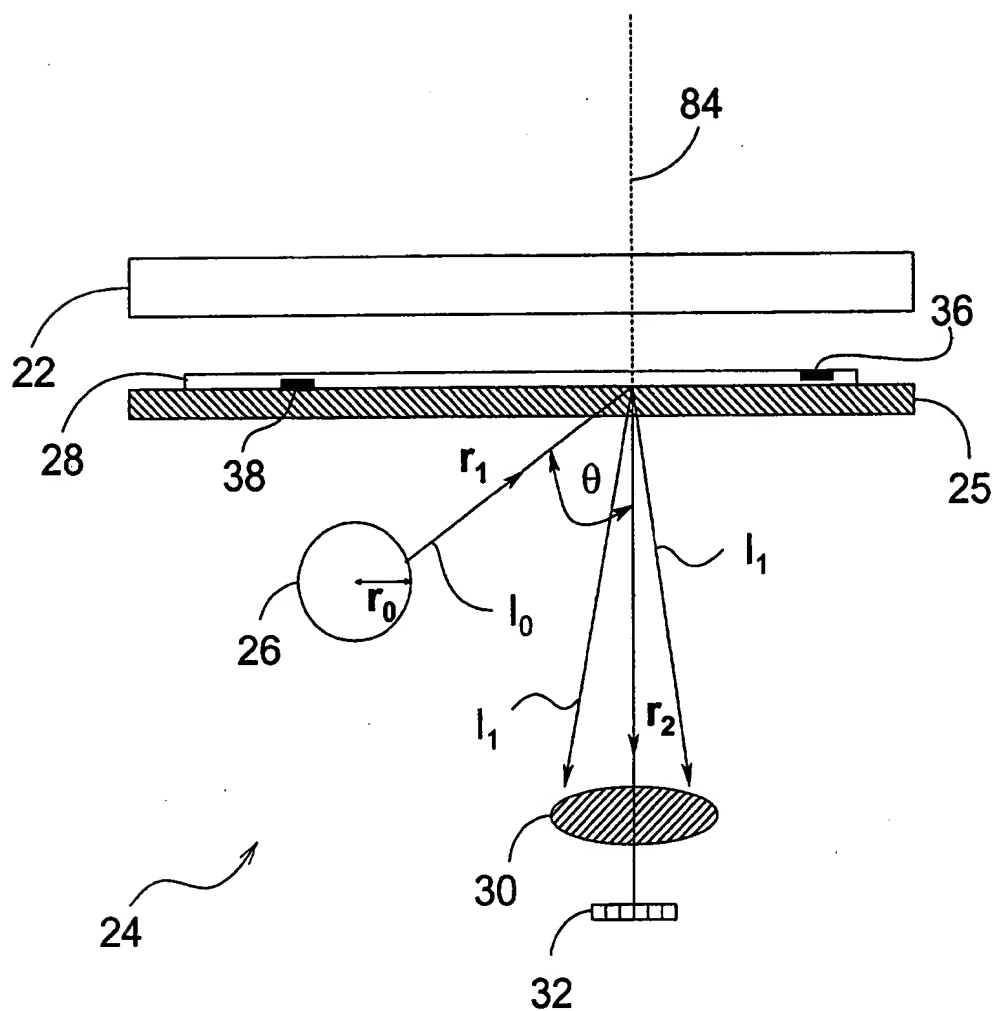


FIG. 2 --PRIOR ART--

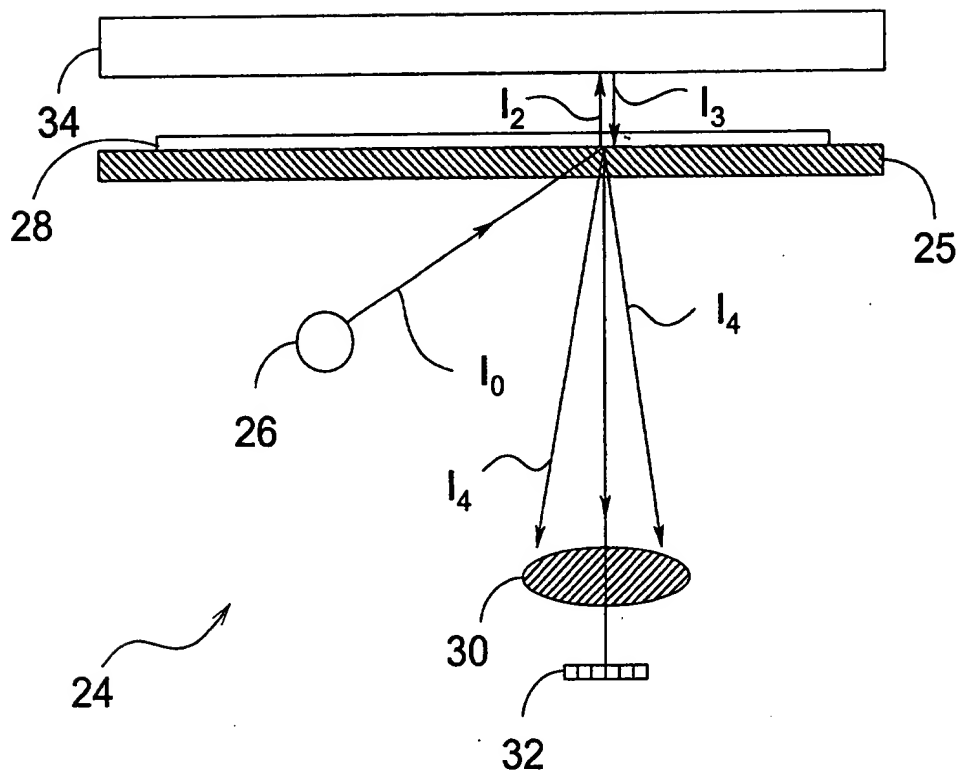


FIG. 3 ~ PRIOR ART ~

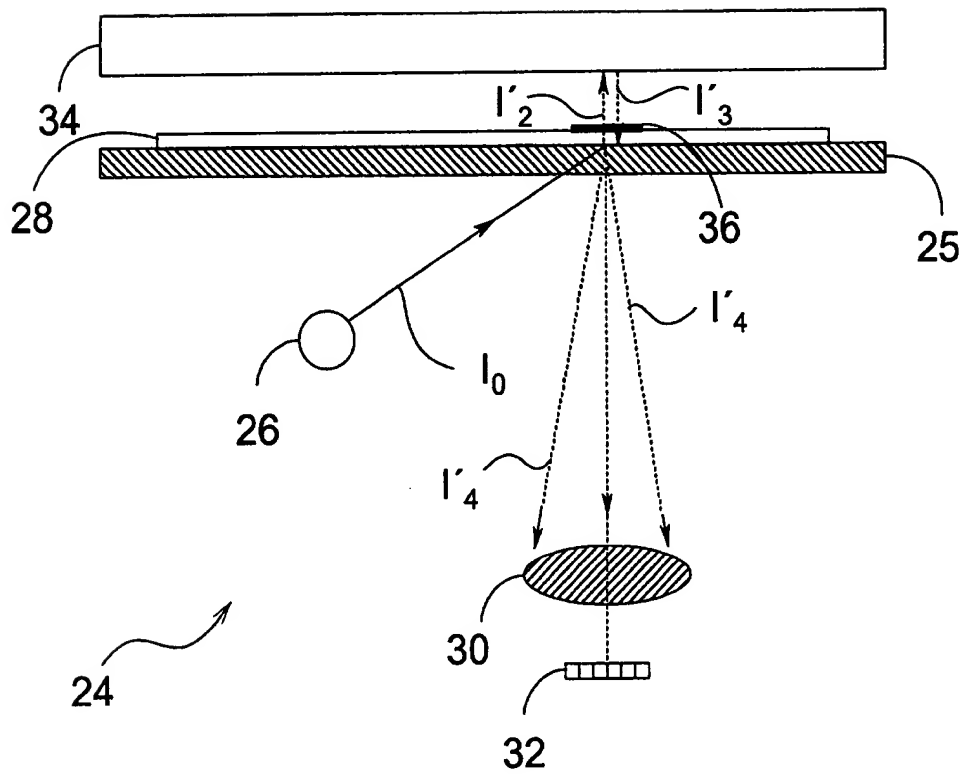


FIG. 4 --PRIOR ART--

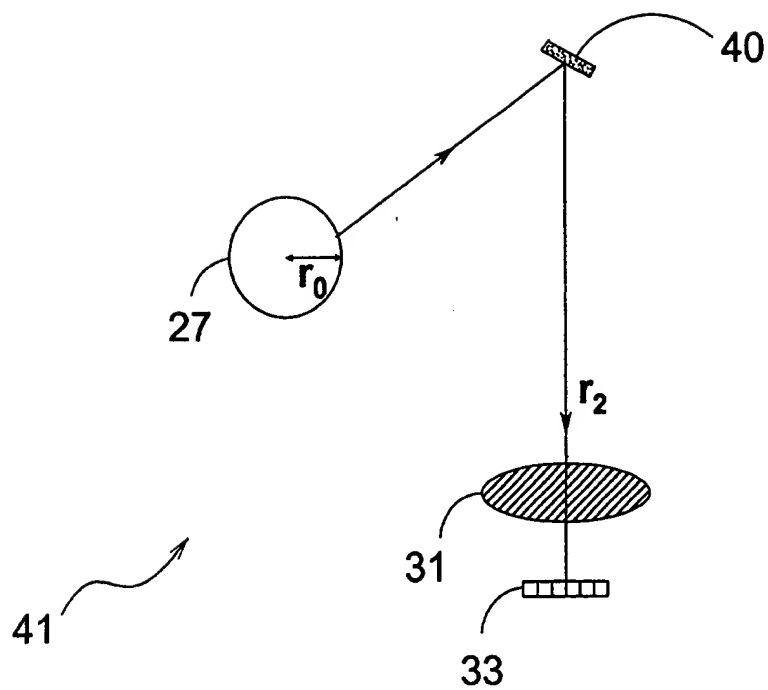


FIG. 5

-- PRIOR ART --

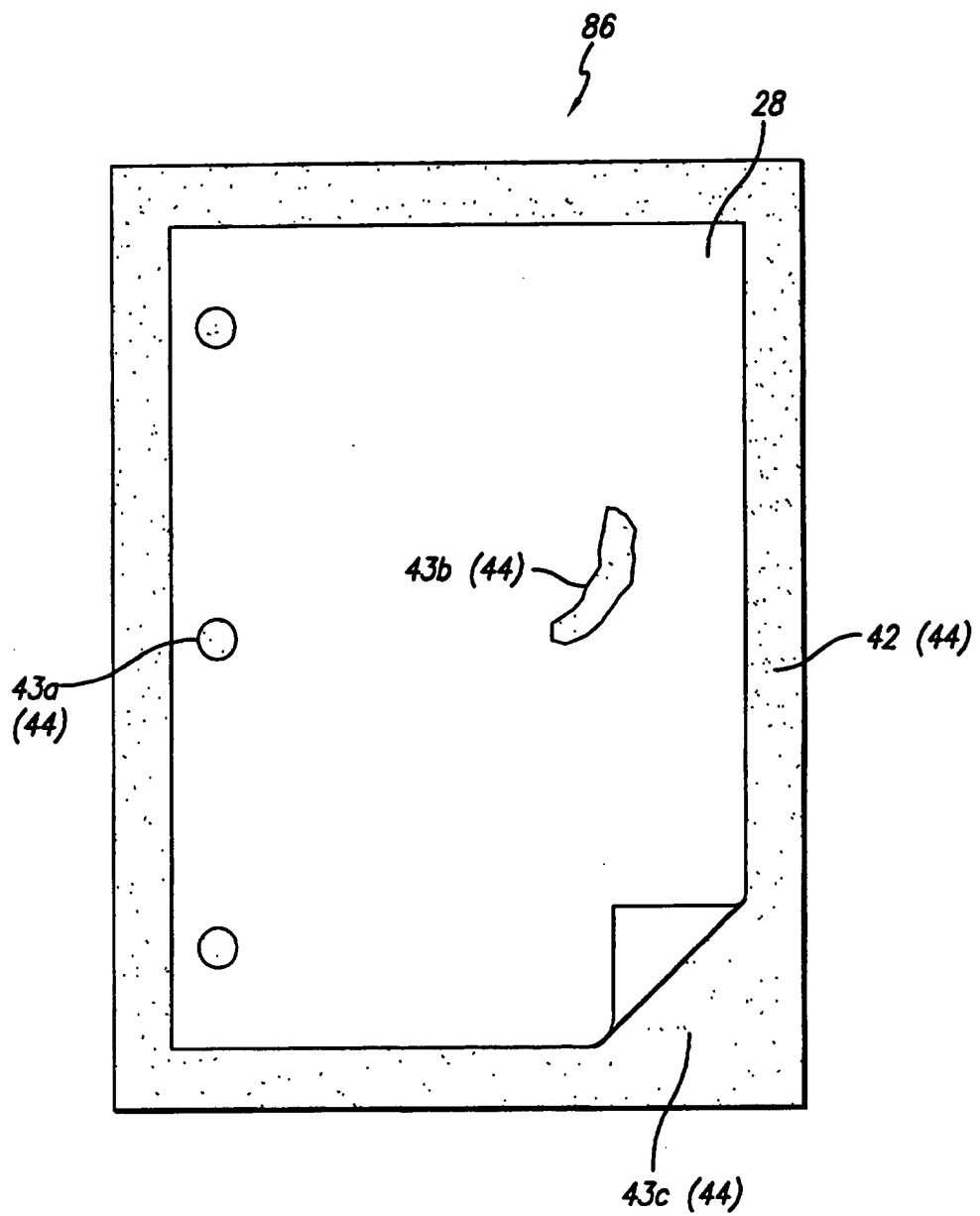


FIG. 6 ---PRIOR ART---